

*What Is Claimed Is:*

1. An isolated nucleic acid molecule comprising a polynucleotide having a nucleotide sequence at least 95% identical to a sequence selected from the group consisting of:
- (a) a nucleotide sequence encoding the TR11 polypeptide having the complete amino acid sequence shown in Figures 1A and 1B (amino acid residues -25 to 209 in SEQ ID NO:2);
  - (b) a nucleotide sequence encoding the TR11SV1 polypeptide having the complete amino acid sequence shown in Figures 2A and 2B (amino acid residues 1 to 241 in SEQ ID NO:4);
  - (c) a nucleotide sequence encoding the TR11SV2 polypeptide having the complete amino acid sequence shown in Figures 3A and 3B (amino acid residues -19 to 221 in SEQ ID NO:6);
  - (d) a nucleotide encoding the complete amino sequence shown in Figures 1A and 1B but lacking the N-terminal methionine (i.e., amino acids -24 to 209 in SEQ ID NO:2);
  - (e) a nucleotide encoding the complete amino sequence shown in Figure 2A and 2B but lacking the N-terminal methionine (i.e., amino acids 2 to 240 in SEQ ID NO:4);
  - (f) a nucleotide encoding the complete amino sequence shown in Figures 3A and 3B but lacking the N-terminal methionine (i.e., amino acids -18 to 221 in SEQ ID NO:6);
  - (g) a nucleotide sequence encoding the predicted mature TR11 receptor comprising the amino acid sequence at positions from 26 to 234 in Figures 1A and 1B (amino acid residues 1 to 209 in SEQ ID NO:2);
  - (h) a nucleotide sequence encoding the predicted mature TR11SV2 receptor comprising the amino acid sequence at positions from 20 to 240 in Figures 3A and 3B (amino acid residues 1 to 221 in SEQ ID NO:6);
  - (i) a nucleotide sequence encoding the TR11 polypeptide having the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit Number 209341;
  - (j) a nucleotide sequence encoding the TR11SV1 polypeptide having the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit Number 209342;
  - (k) a nucleotide sequence encoding the TR11SV2 polypeptide having the complete amino acid sequence encoded by the cDNA clone contained in ATCC Deposit Number 209343;

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(l) a nucleotide sequence encoding the mature TR11 receptor having the amino acid sequences encoded by the cDNA clone contained in ATCC Deposit Number 209341;

(m) a nucleotide sequence encoding the mature TR11SV1 receptor having the amino acid sequences encoded by the cDNA clone contained in ATCC Deposit Number 209342;

(n) a nucleotide sequence encoding the mature TR11SV2 receptor having the amino acid sequences encoded by the cDNA clone contained in ATCC Deposit Number 209343;

(o) a nucleotide sequence encoding the TR11 receptor extracellular domain;

(p) a nucleotide sequence encoding the TR11SV1 receptor extracellular domain;

(q) a nucleotide sequence encoding the TR11SV2 receptor extracellular domain;

(r) a nucleotide sequence encoding the TR11 receptor transmembrane domain;

(s) a nucleotide sequence encoding the TR11SV1 receptor transmembrane domain;

(t) a nucleotide sequence encoding the TR11SV2 receptor transmembrane domain;

(u) a nucleotide sequence encoding the TR11 receptor intracellular domain;

(v) a nucleotide sequence encoding the TR11SV1 receptor intracellular domain;

(w) a nucleotide sequence encoding the TR11SV2 receptor intracellular domain;

(x) a nucleotide sequence encoding the TR11 receptor extracellular and intracellular domains with all or part of the transmembrane domain deleted;

(y) a nucleotide sequence encoding the TR11SV1 receptor extracellular and intracellular domains with all or part of the transmembrane domain deleted;

(z) a nucleotide sequence encoding the TR11SV2 receptor extracellular and intracellular domains with all or part of the transmembrane domain deleted; and

(aa) a nucleotide sequence complementary to any of the nucleotide sequences in (a), (b), (c), (d), (e), (f), (g), (h), (i), (j), (k), (l), (m), (n), (o), (p), (q), (r), (s), (t), (u), (v), (w), (x), (y) or (z).

2. The nucleic acid molecule of claim 1 wherein said polynucleotide has the nucleotide sequence encoding the mature TR11SV2 receptor polypeptide having the amino acid sequence encoded by the cDNA clone contained in ATCC Deposit Number 209343.

3. An isolated nucleic acid molecule comprising a polynucleotide which hybridizes under stringent hybridization conditions to a polynucleotide having a

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polypeptide comprising amino acid residues from about Glu-31 to about Glu-46 in SEQ ID NO:4; a polypeptide comprising amino acid residues from about Cys-61 to about Glu-69 in SEQ ID NO:4; a polypeptide comprising amino acid residues from about Gly-99 to about Ser-107 in SEQ ID NO:4; a polypeptide comprising amino acid residues from about Glu-125 to about Asp-133 in SEQ ID NO:4; a polypeptide comprising amino acid residues from about Phe-143 to about Ala-151 in SEQ ID NO:4; a polypeptide comprising amino acid residues from about Gly-156 to about Gly-164 in SEQ ID NO:4; a polypeptide comprising amino acid residues from about Cys-196 to about Leu-204 in SEQ ID NO:4; a polypeptide comprising amino acid residues from about Pro-209 to about Ser-217 in SEQ ID NO:4; and a polypeptide comprising amino acid residues from about Ser-229 to about Gly-237 in SEQ ID NO:4.

7. The isolated nucleic acid molecule of claim 1, which encodes an epitope-bearing portion of a TR11SV2 receptor polypeptide selected from the group consisting of: a polypeptide comprising amino acid residues from about Gln-1 to about Cys-9 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Gly-5 to about Arg-13 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Thr-18 to about Arg-26 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Thr-29 to about Pro-37 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Cys-48 to about Glu-56 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Val-87 to about Phe-95 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about His-111 to about Thr-119 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Phe-130 to about Ala-138 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Gly-143 to about Gly-151 in SEQ ID NO:6; a polypeptide comprising amino acid residues from about Pro-190 to about Cys-198 in SEQ ID NO:6; and a polypeptide comprising amino acid residues from about Ser-209 to about Gly-217 in SEQ ID NO:6.

8. An isolated nucleic acid molecule, comprising a polynucleotide having a sequence selected from the group consisting of:

(a) a nucleotide sequence of a fragment of the sequence shown in SEQ ID NO:1, wherein said fragment comprises at least 30 to 50 contiguous nucleotides from SEQ ID NO:1, provided that said isolated nucleic acid molecule is not SEQ ID NO:8, SEQ ID NO:9, or any subfragment thereof;

(b) a nucleotide sequence of a fragment of the sequence shown in SEQ ID NO:3, wherein said fragment comprises at least 30 to 50 contiguous

nucleotides from SEQ ID NO:3, provided that said isolated nucleic acid molecule is not SEQ ID NO:8, SEQ ID NO:9, or any subfragment thereof;

(c) a nucleotide sequence of a fragment of the sequence shown in SEQ ID NO:5, wherein said fragment comprises at least 30 to 50 contiguous nucleotides from SEQ ID NO:5, provided that said isolated nucleic acid molecule is not SEQ ID NO:8, SEQ ID NO:9, or any subfragment thereof; and,

(d) a nucleotide sequence complementary to a nucleotide sequence in (a), (b) or (c), above.

9. A method for making a recombinant vector comprising inserting an isolated nucleic acid molecule of claim 1 into a vector.

10. A recombinant vector produced by the method of claim 9.

11. A method of making a recombinant host cell comprising introducing the recombinant vector of claim 10 into a host cell.

12. A recombinant host cell produced by the method of claim 11.

13. A recombinant method for producing a TR11, TR11SV1 or TR11SV2 polypeptide, comprising culturing the recombinant host cell of claim 12 under conditions such that said polypeptide is expressed and recovering said polypeptide.

14. An isolated polypeptide having an amino acid sequence at least 95% identical to a sequence selected from the group consisting of:

(a) the TR11 polypeptide encoded by the deposited cDNA including the leader;  
(b) the TR11 polypeptide encoded by the deposited the cDNA minus the leader (i.e., the mature protein);

(c) the TR11 polypeptide of Figures 1A and 1B (SEQ ID NO:2) including the leader;

(d) the TR11 polypeptide of Figures 1A and 1B (SEQ ID NO:2) including the leader but minus the N-terminal methionine;

(e) the polypeptide of Figures 1A and 1B (SEQ ID NO:2) minus the leader;

(f) the extracellular domain, the transmembrane domain, and the intracellular domain of the TR11 receptor shown in Figures 1A and 1B (SEQ ID NO:2);

(g) the complete TR11SV1 polypeptide encoded by the deposited cDNA;

(h) the mature TR11SV1 polypeptide encoded by the deposited the cDNA;

- (i) the TR11SV1 polypeptide of Figures 2A and 2B (SEQ ID NO:4);
- (j) the TR11SV1 polypeptide of Figures 2A and 2B (SEQ ID NO:4) including the leader but minus the N-terminal methionine;
- (k) the extracellular domain of the TR11SV1 receptor shown in Figures 2A and 2B (SEQ ID NO:4);
- (l) the TR11SV2 polypeptide encoded by the deposited cDNA including the leader;
- (m) the TR11SV2 polypeptide encoded by the deposited the cDNA minus the leader (i.e., the mature protein);
- (n) the TR11SV2 polypeptide of Figures 3A and 3B (SEQ ID NO:6) including the leader;
- (o) the TR11SV2 polypeptide of Figures 3A and 3B (SEQ ID NO:6) including the leader but minus the N-terminal methionine;
- (p) the polypeptide of Figures 3A and 3B (SEQ ID NO:6) minus the leader; and
- (q) the extracellular domain of the TR11SV2 receptor shown in Figures 3A and 3B (SEQ ID NO:6).

15. An antibody that binds specifically to the polypeptide of claim 14.

16. A method of treating a disease state associated with aberrant cell survival comprising introducing an effective amount of the polypeptide of claim 14, or agonist or antagonist thereof, into an individual to be treated in a mixture with a pharmaceutically acceptable carrier.

17. A method of treating a disease state associated with aberrant cell survival comprising introducing an effective amount of the polypeptide of claim 14, or agonist or antagonist thereof, into an individual to be treated in admixture with a pharmaceutically acceptable carrier.

18. A method of screening for agonists and antagonists of the polypeptide of claim 14 comprising:

- (a) contacting cells which express a TR11 receptor with a candidate compound,
- (b) assaying a cellular response, and
- (c) comparing the cellular response to a standard cellular response made in absence of the candidate compound; whereby, an increased cellular response over the

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